FEBRUARY 11, 1961

SCHOOL AND SOCIETY

47th YEAR OF PUBLICATION

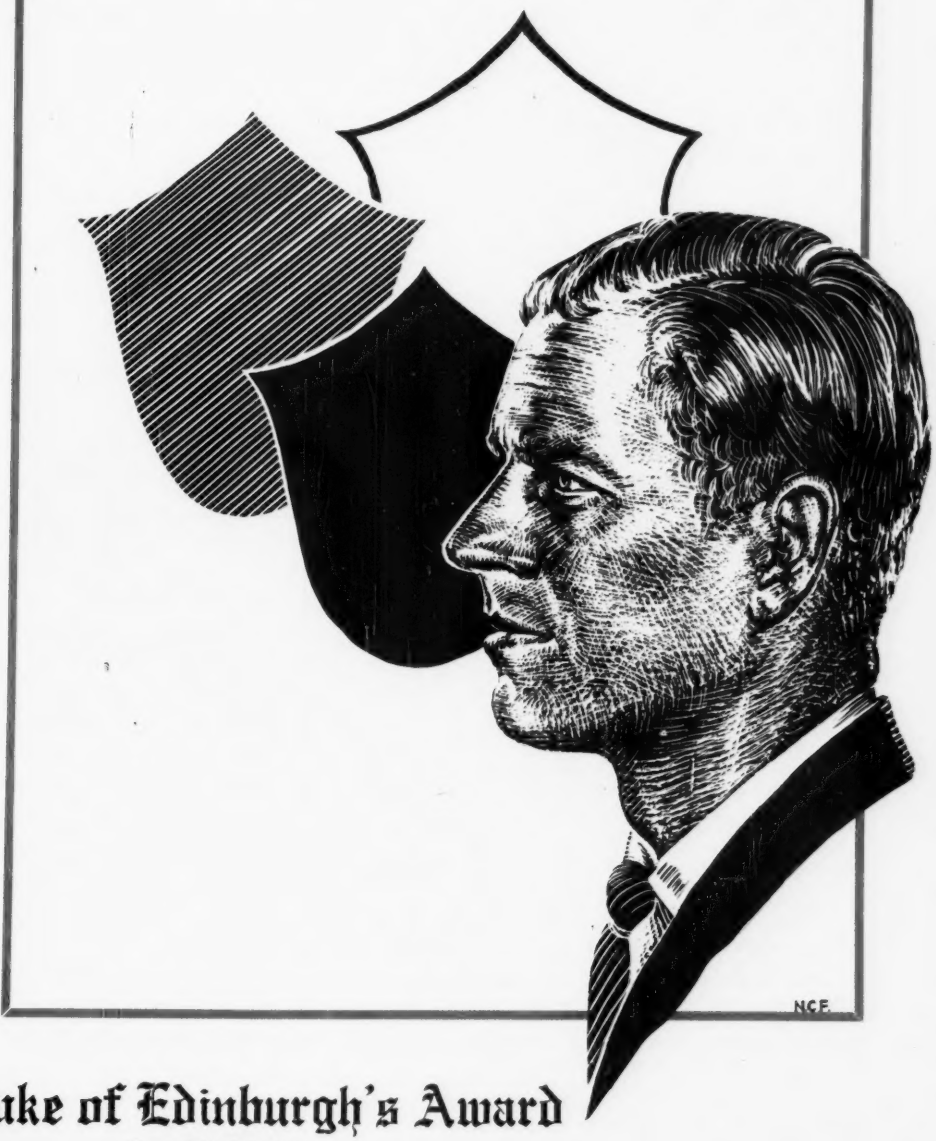
THE AMERICAN UNIVERSITY TODAY

By NATHAN M. PUSEY

How Trustees Judge a College President

Educational, Cultural, and Scientific Plans of Communist China

Effect of Increasing Class Size in College



The Duke of Edinburgh's Award

(See REPORTS)

SCHOOL AND SOCIETY

FEBRUARY 11, 1961

Volume 89 Number 2186

Editorial

THE EDUCATIONAL RESPONSIBILITY OF MASS MEDIA

LIFE, TIME, NEWSWEEK, and publications of similar mass appeal are mainly designed, it would seem, to give a cross-sectional view of the multi-faceted American society. The regular reader is not only given an insight into what is happening in the United States on most fronts of activity, but also a good glimpse into the world outside. No one will question the fact that the magnitude of the circulation of these mass media attests to the fact that the readers obtain their money's worth in information and opinion.

What might be questioned, however, is whether these magazines fulfill their obligation to present to the public an accurate, objective, and representative picture of present-day America. Let us not consider here the adequacy of the content in domestic and foreign affairs, in the arts and spiritual fields, or in science and business. There are numerous specialists who are more qualified to evaluate what the mass journals have to offer in these categories. Instead, those who make it their practice to examine educational affairs should take a close look at what is being presented by the periodicals under the heading of "Education."

Without mentioning any of the magazines in particular, since they tend to vary somewhat from week to week and to some extent from each other, it is evident that one of the customary practices is to publish what is eye-catching, either by way of a sensation or in the form of a novelty. A weekly presentation may be devoted to a new book or new idea in education, a scholastic problem, or an interesting personality, or else to a combination of some of these elements. This is fine, since a popular journal cannot be expected to fulfill a professional function in covering most of the major developments in education during a given week. Of course, there may not be anything of major significance for several weeks or even months.

However, there are frequent occasions when the mass media of periodical journalism fritter away their readers' time and their own valuable space by the inclusion of items of interest which cater less to the intellectual-minded than to the sensation-seeking. As a result, Americans and foreigners as well, many of whom depend upon these mass magazines for a reliable portrait of contemporary America, obtain an erroneous impression of what goes on under the name of education in the United States. This is not to say that the less attractive side of American schools or colleges should not be discussed; on the contrary, vigorous, pertinent, and responsible criticism is essential for the advancement of education. What is deplorable is the presentation of the trivial as the typical. And while the discerning foreigner has no business to draw definitive conclusions on education from a mass-appeal medium, and is himself, accordingly, subject to serious criticism for such a practice, the fact remains that many citizens of other countries form their opinions on American schools and colleges on the basis of a reading of *Life*, *Newsweek*, and *Time*. To this extent, these magazines are a contributory factor to the debasement of the reputation of American education.

In talking to foreigners here and abroad, and in reading their publications, one can determine the source of information regarding the significance of panty-raids and bizarre parties in American colleges and universities. The Sept. 19, 1960, issue of *Time* devoted about a third of a column to two sample courses among 400 offered by the New School for Social Research: "Gourmet Exploration" and "Being All There." Surely, one might reason, these are typical of what is taught in this institution! There are many more examples that might be cit-

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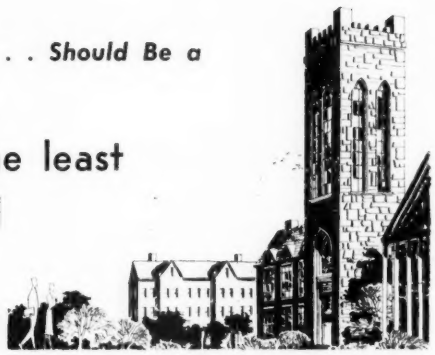

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(Continued from page 42)

ed to show the one-sided image of American education obtained by a reader of the popular periodicals.

The mass media magazines are certainly capable of offering their clientele a more accurate portrait of American schools and universities. In a day when much concern is expressed over how America is reflected in the eyes of its neighbors, it is necessary to give more thought to a reliable representation of American education.

Overemphasis on the comical and the sensational may delight but will not enlighten. It is the responsibility of the mass magazines to leave something more than the memory of mere amusement in the minds of those who regard them as sources of knowledge.

WILLIAM W. BRICKMAN

INSUFFICIENT SUPPORT FOR HIGHER EDUCATION

THE FINANCIAL SUPPORT for the nation's 1,800 colleges and universities may not be sufficient to meet the needs brought on by growing enrollment, according to the American Association of Fund-Raising Counsel, Inc. The enrollment in 1960 was at a high of 3,780,000, or more than double that of 1940. The needs for plant facilities and improvement for existing institutions are estimated at $13,000,000,000 during the next seven years, but these estimates do not seem likely to be in pace with this expanding enrollment.

Educational authorities estimate $9,000,000,000 will be required annually to support higher education alone by 1970. Based on current trends, support may be anticipated at $7,166,000,000, or 77% of the estimated need. Of this sum, the association reported $1,890,000,000 should be expected from private gifts and grants.

The endowment principal of higher educational institutions is currently estimated at $3,770,030,000 and is increasing at a rate of $175,000,000 annually. Endowment principal is expected to reach $5,500,000,000 in the next decade.

Earnings from endowment are currently at a rate of $181,638,000 annually and may reach $221,200,000 during this period at the present annual rate of four per cent. Ideally, the association pointed out, higher education should derive 25% of its income from investment—but no institution has approached this level, and only 3.9% of the income to all higher education comes from endowment.

Philanthropic support of higher education in 1958-59 reached $626,574,000, according to a survey by the Counsel for Financial Aid to Education. The AAFRC estimated giving for all education was in excess of $1,000,000,000.

Sources of giving to higher education during 1959, as listed by the Council for Financial Aid to Education, are: alumni, $152,582,763; other individuals, $129,349,375; government, $124,822,029; corporations, $98,456,255; foundations, $88,337,037; religious denominations, $64,214,314; non-religious, non-alumni groups, $52,351,488; and governing boards, $24,422,178.

Total philanthropy in the U.S. today is estimated by the AAFRC to exceed $7,800,000,000. Of this, education receives 12% at present and its share is increasing. By 1970, total philanthropy may reach $11,800,000,000 at the present annual rate of increase. Education may receive a proportionately larger share of this than at present.

The American Association of Fund-Raising Counsel is a nonprofit organization of 30 national firms engaged in organizing, directing, and counseling the fund-raising activities of religious, health, educational, and welfare institutions in the U.S. and Canada.

FEDERAL PARTICIPATION IN HIGHER EDUCATION

AT THE CLOSE of their discussions, the participants in the Saint Louis University Regional Assembly, co-sponsored with the American Assembly, Columbia University, at Pere Marquette State Park, Grafton, Ill., Oct. 27-30, 1960, on "The Federal Government and Higher Education" recommended the following principles and proposals as guides for future government participation in higher education:

1. "Since higher education is a matter of national interest, it is now and should remain an area appropriate for participation by the federal government."

2. "The federal government should recognize, as in the past, the diverse sponsorship of higher education in this nation, and should continue to direct its aid programs in a manner calculated to avoid distinctions between public and private institutions and to use to the fullest extent possible the significant resources of all such institutions."

3. "Federal support of higher education should not be limited to matters of national security, but should be extended to academic areas where present financial support from other sources is not adequate."

4. "The present practice of federal support through grants and contracts for specific services and projects should be continued. In such grants and contracts the federal government should bear the total cost."

5. "The federal government should also give general support to higher education as a means of advancing the public interest, thus becoming 'patron' as well as 'customer.'"

6. "In particular, the federal government should set up a program of grants for the construction of academic facilities on a matching basis to the colleges and universities in the United States."

7. "The federal government should be particularly concerned with the critical and widening gap between the number of students and the number of qualified college teachers. Through expanded and new programs for graduate fellowship and related assistance, it should promote the recruitment and adequate preparation of increasing numbers of college teachers."

8. "Federal programs should encourage both scholarship and loan arrangements of many kinds. This should be done in such a way as to permit each student free choice in the selection of the accredited school he wishes to attend and so as to assure maximum use of scholarship funds likely to be in desperately short supply as the student population progressively develops in the ten years ahead."

9. "Since federal support of higher education should be extended to all academic fields, agencies analogous to the National Science Foundation and the National Institutes of Health should be established for the social sciences and the humanities. (The general policies and procedures of the National Science Foundation and of the U.S. Public Health Service were, in the main, warmly approved by the Assembly.)"

10. "In planning federal assistance to education, leadership should be taken by groups and organizations —such as the American Council on Education—which are broadly representative of higher education and are independent groups."

11. "Since it is particularly in the public interest to discover and identify the upper levels of talented and able young people and to provide them the best possible education, the federal government should provide continuing support for appropriate programs such as honors programs throughout the nation."

12. "Requirements for contractual and grant arrangements with institutions of higher learning should be reduced to the greatest possible simplicity, both in administrative procedures and in accounting formulae and auditing."

13. "Federal financial aid, however accomplished and whatever its degree, must not violate the integrity and autonomy of institutions of higher education. Such aid must take into account and respect the diversity of basic objectives of the nation's colleges and universities. Control of higher educational policy by the legislative or the

executive branch of the federal government, whether by express conditions or by indirect pressures, must be avoided."

EMERGENCY PROGRAM FOR CONGO APPROVED BY UNESCO

THE 24-MEMBER Executive Board of Unesco has approved a proposal to recruit immediately up to 500 French-speaking teachers and 31 technical assistance experts in education for the Congo. The proposal, presented by Vittorino Veronese, Director-General of Unesco, was made at the request of the government of the Congo (Leopoldville).

The program is being carried out by Unesco within the framework of the United Nations Civilian Operations plan laid down by Dag Hammarskjold, United Nations Secretary-General, in giving effect to resolutions adopted by the Security Council on July 14 and 22, 1960.

Specifically, Unesco will make arrangements for the recruitment for the duration of the academic year 1960-61 of a maximum of 500 French-speaking teachers for secondary technical schools and teacher training colleges to replace those Belgian teachers who have not returned. An appeal accompanied by necessary data regarding qualifications and salaries is being addressed to the governments of UN and Unesco member states, requesting them to seek and submit nominations for them.

The 31 experts and specialists will assist the Central Ministry and Provincial Ministries of National Education in the Congo to re-establish and develop the educational system. In addition, Unesco is studying the means to be employed to secure a permanent status and regular financing for the Institute for Scientific Research in Central Africa. At the same time, a number of instructors may be recruited for the Lovanium University to strengthen its teaching body in the natural science department and in other fields such as the administrative and social sciences.

SELECTING A COLLEGE

IN HIS ADDRESS at the 74th annual convention of the Middle States Association of Colleges and Secondary Schools, Nov. 25, 1960, Pres. Edward D. Eddy, Jr., of Chatham College, Pittsburgh, Pa., included the following discussion on the evaluation of a college:

"ARE WE WILLING TO ENCOURAGE THE JUDGMENT AND SELECTION OF COLLEGES ON CRITERIA WHICH ARE IN KEEPING WITH SOUND ACADEMIC AIMS? This question presupposes our primary interest in the individual as a potential scholar, not as a status seeker. If I were a parent looking for a college for my son or daughter, I would want to do two things beyond the usual. First, I would subscribe— and this, I admit, is rank heresy—to the student newspaper to find out what concerns students and how they keep themselves busy. I would try to determine from this the three *major* issues seriously discussed on that campus in a particular year.

"And then I would want to seek answers to a number of embarrassing but perhaps penetrating questions. Among them I would include these:

"1. What is the average teaching load?
"2. What has been the faculty turn-over during the past five years?
"3. To what extent is there in-breeding in faculty and administrative appointments?
"4. What is the pattern of dormitory living?
"5. What is the realistic level of expectancy in academic work in campus life?
"6. What books and magazines are in greatest demand in campus bookstores?
"7. How many concerts, plays, exhibits, and lectures by visiting scholars were scheduled during the past year?
"8. What is the record of graduate school acceptances?
"9. Has the faculty taken a stand on academic freedom in such matters as the disclaimer affidavit, and *why*?
"10. Is there a clearly defined core of knowledge which the college expects in the four years of collegiate activity?
"11. When was the curriculum last examined intensively and revised extensively?
"12. What are the typical office hours of faculty members?
"13. What is the extent and nature of faculty activities beyond teaching?
"14. What change has occurred in the past ten years in the amount allocated for library acquisitions?
"15. Is there a sense of community anywhere or everywhere?

Realistic answers to realistic questions such as these are the sensible guide to appropriate choice—not sentimentality over the dream of an alma mater which never was or touched-up photographs of a building with no right to be."

THE SCHOLAR-TEACHER IN HIGHER EDUCATION

THE FUTURE of higher education lies in the hands of "scholar-teachers"—men and women who combine the arts of research and teaching, Howard F. Lowry, president, The College of Wooster (Ohio), declared in November at the University of Michigan. "In the light of this thesis, I find little favor in the proposals for two degrees—a 'research' degree and a 'teaching' degree," he said at the 14th annual Conference on Higher Education. "The only degree that ultimately furnishes a teacher is a degree that has taught him how to go to the heart of a problem and solve it in depth as best he can.

"The Ph.D. degree has often suffered in the graduate school from too narrow a view of scholarship and from an almost complete disregard of preparation for teaching. But these are not reasons for abandoning the work itself, or making it the less necessary basis of the college teacher's work.

"When liberal arts colleges complain that the graduate school sends them too many teachers who lack broad cultivation and breadth, they should remember that furnishing this breadth for life is not the prime work of the graduate school—it is clearly the task of all earlier education and particularly that of the liberal arts college itself. The liberal arts colleges can help in other ways. They can furnish on-the-job training to the young teachers who come back to them; they can offer teachers some assured programs of research and sabbatical leave; they can join with the graduate school itself in the early recruitment of future teachers."

Lowry agreed that "to man our liberal arts colleges for the next several years, we may have to use many Spartan measures. We shall probably have to strengthen less-known graduate schools, ask existing colleges to take on responsibilities for offering more post-graduate work, use more M.A.'s who are better prepared, summon into college teaching more gifted and educated women who have perhaps reared their families, recruit more able retired people from government, business and the learned professions, and use more wisely the resources at hand. This Spartan period will be disastrous only if we compromise the real future out of existence—to the point where we forget what true learning and true teaching is."

Whatever reforms either the undergraduate or the graduate school effect, Lowry concluded, "society must continue to make its own contribution to higher learning in America. It must do so by paying far more for higher education than it has ever yet elected to pay, and by honoring the climate of learning in which the scholar-teacher thrives and does his work. During this time of compromise, we must not lose our ideal of the man who is trained both broadly and in depth to teach in college."

(EVENTS continued on page 64)

THE AMERICAN UNIVERSITY TODAY*

By NATHAN M. PUSEY
President, Harvard University

THE AMERICAN UNIVERSITY today is an astonishing institution. It addresses itself to an amazing assortment of students of different ages, interests, intentions, ambitions, and degrees of preparation. It offers instruction to what people in other countries consider to be enormous numbers of undergraduates pursuing courses in the arts and sciences, and to even larger numbers at work in one or another of a multitude of programs of professional or semi-professional study which are often frankly and deliberately—even proudly—vocational. It must provide for talented undergraduates and for those of little talent; for those who work industriously and for some who scarcely work at all. At the same time it also must meet the needs of a large and rapidly growing number of graduate students. These, too, are of many different kinds—some of them studying to become scholars, investigators, and university teachers; others (a more numerous group) preparing for professional life at an advanced level.

At the American university today there are also increasing numbers of post-graduate, or better, post-doctoral students, who come to our universities for many different reasons from countries all over the world. And there are other kinds of older students, not candidates for degrees, to many of whom the name "student" is properly applied only in the sense that we all are—or should be—students for life. These include teachers from high schools and from colleges and universities coming back for special programs, and scholars from other universities and countries who return to follow quests in special laboratories, to work with teachers who are making fresh advances in their fields, to make use of unique collections, or simply avail themselves of the extraordinary resources and opportunity for study which a university normally provides.

There are also other older individuals—with advanced professional interests—who come to the university from branches of the military and from departments of government, from business and industry, from agriculture and journalism, from labor and medicine, and from other fields. And there are groups of people—policy makers in government and in business, labor leaders, city-planners—a considerable variety of professionals who choose to come together for longer or shorter periods of time in a university atmosphere to get what help they can from specialist professors, to learn from each other, to share their knowledge and together to take thought concerning problems of mutual concern.

Perhaps this brief review furnishes sufficient reason for us to feel sorry for today's professors who are pulled in so many directions. The early American university served no such mishmash of people. And there is more to the story of the contemporary professor's plight. So ubiquitous and pressing is the need for expertness and so many are the members of university faculties called upon to perform the endless and multiplying variety of consultative and advisory functions in behalf of individuals and organizations—governments, businesses, professional associations here and abroad—that it would not be surprising to find at any given moment a considerable percentage of all professors and administrative officers about to go into orbit, flying in many directions on an astonishing variety of missions all over the globe. At Harvard we have at least one professor who can hardly wait to get to the moon.

Beyond the demands of teaching, advising, and instructing are the even more difficult requirements of investigation and research. Today's scholars are under necessity to occupy and explore the frontiers and to plumb the depths of a terrain of knowledge so expanded and deepened, and now seen to be so complicated, that comparing it with the restricted fields of earlier concern makes former investigators and their preoccupations sometimes seem primitive and simple.

The view of the American university now has lifted beyond the confines of western culture to scan cultures of the whole world. Its attention to international studies also has sharply increased, broadened, and deepened. Other new fields for exploration and teaching have come into being. Nuclear experimentation, defense studies, investigations in oceans and space are only a few of the fields in which rigorous work has been made possible by scholarly and technical advance. There are also some fields in which study has been made necessary by political development. And there are others—the mechanisms of business, the behavior of groups

* Address, University of North Carolina, Chapel Hill, Oct. 12, 1960.

large and small, psychiatry in medicine. These, their subdivisions, and many more have captured the interest of groups of scholars and have become strongly established in the university's curricula. Discrimination of new fields of knowledge, and of new areas for intensified investigation within old fields, follows inevitably year by year with scholarly advance. Fraught with special excitement and promise at the moment are the penetrations of the experimental biologists into such wonder areas as the innermost recesses of the cell; and side by side with this and others, there are the continuing efforts of humanists to bring fresh light to that island universe which always will be of deepest interest to us, the human heart.

The enormous increase in knowledge in our time is amply demonstrated by the growth of your library. A million volumes is a very large collection of books, more by far than most universities have been able to assemble or many individuals could ever hope to read. Yet, when measured against the full range of interests and fields of inquiry now pursued in a major university, or against the needs of a lively 20th-century community, such a collection does not appear large.

Knowledge old and new lives and is mediated through books. Within them is stored for future use the intellectual capital of the race. Again and again they serve as catalytic agents prompting fresh intellectual discovery. Without books—many books—a university could not attract, nor provide for, nor keep scholars, nor could its surrounding community grow beyond a limited and impoverished manner of life. Today the flood of books in countless languages pouring from the presses of the world, recording the experiences, hopes, discoveries, plans of peoples everywhere, is larger than ever before, and a research library to be alive must grow with this torrent. Somehow in our universities we must keep up with the full flood—not each of us with all of it, but together, dividing the burden in some sensible manner, with all that can be shown to be relevant in our broadened and broadening world of learning.

But my subject is not your library—on whose quality and present achievement clearly, none the less, you deserve commendation—but today's American university.

Is there now a central, dominating idea at work within this complicated institution which holds it together and in some degree directs its activity and animates its parts? Here old ideas seem no longer to serve.

Newman, you remember, who spoke so eloquently of "the idea of the university" a little more than a century ago, about a decade before the passage of the Morrill Land-Grant Act in this country, felt that the magic power of great teaching to elicit creative response in young minds constituted the essential university activity. His was and remains an attractive theory. It was his view that a university will discharge the full measure of its social responsibility if only it can produce in each generation a few men equipped with judicious minds. This view is made winsome by his description of several kinds of injudicious minds not unfamiliar in our time. "What is more common," he says, "than the sight of grown men talking on political or moral or religious subjects, in that offhand, idle way, which we signify by the word *unreal*? . . . Such persons have no difficulty in contradicting themselves in successive sentences, without being conscious of it. . . . Others, whose defect in intellectual training is more latent, have their most unfortunate crochets, as they are called, or hobbies, which deprive them of the influence which their estimable qualities would otherwise secure. . . . Others can never look straight before them, never see the point, and have no difficulties in the most difficult subjects. Others are hopelessly obstinate and prejudiced, and, after they have been driven from their opinions, return to them the next moment without even an attempt to explain why. Others are so intemperate and intractable that there is no greater calamity for a good cause than that they should get hold of it. . . ."

We may all agree that if universities could expunge such injudicious minds from society and substitute for them minds marked by good sense, sobriety of thought, reasonableness, candor, self-command, and steadiness of view, as Newman advocated, they would be amply justified. Any theory which produced this result would have to be held in respect. But, after centuries of higher education, opinionatedness remains with us.

For Newman knowledge tended to be something established and familiar. It was at least familiar to cultivated people. The teacher's task was simply to stimulate young minds to pursue it. Though he paid lip-service to the importance of research, by and large, like the French after the educational reforms of Napoleon, or like the Russians today, he would leave the chief responsibility for research to academies and institutes outside universities. But unlike these—certainly unlike today's Russians—in his heart of hearts he had very little enthusiasm for any kind of research beyond that quiet reading for the at-

tainment of wisdom which has been traditionally associated, with varying degrees of justification, with the scholar's study. It was his view that if a university's objective were scientific or philosophical discovery, it would have no need of students. He seems, in this regard, to have had almost no appreciation of the notion that research might improve teaching—an idea which chiefly motivated our pioneers in the higher "higher learning" who labored zealously in the closing decades of the 19th century to establish university as contrasted with college education in this country. For this reason it was easy for him then to argue in a circle that since students were indispensable, obviously teaching, not research, was the university's aim.

If there has been a single dramatic change within our universities during the past two decades, it is in the enormous increase in the amount of research now done within them. I can suggest the nature of this, if I may, by citing a statistic or two with which I am familiar from the experience of Harvard. Twenty-five years ago Harvard had only 88 purely research appointments; last year there were 876. Twenty-five years ago Harvard's department of chemistry spent less than $100,000 on research; last year this department alone spent over a million dollars for this purpose. The amount spent for research in the Harvard Medical School in 1934 was $222,000. By 1959, this school's annual budget for research had risen to more than $5,000,000. These figures make no allowance for inflation nor do they tell anything of the worth of results achieved. The research done could, of course—although I am confident it is not—be trivial, misdirected, unimaginative, and pedestrian. But the amount spent at least suggests a very substantial shift in interest, in aim, and in practice of a kind which has occurred in department after department, in university after university, since the early years of World War II. Indeed, the amount spent on research in all our universities rose by more than 2,600% from $27,000,000 in 1939-40 to $734,000,000 in 1957-58.

In a sense, this gargantuan growth of research in our universities represents the triumph of a theory planted in them at the time of their second, true beginnings to which I referred [above]. This theory did not come to us from the British educational practice which Newman knew, loved, and eloquently described, but rather from a concept of higher education developed in Germany in the 19th century. The difference between the two views can be explained in part by the fact that the German university was peopled by students older than Newman's undergraduates. Their ages were usually from 20 to 25. But a much more basic point of cleavage is that the German university looked first to the professor rather than to the student, and even more fundamentally, back of the professor, to the world of knowledge.

German theory did not conceive the world of knowledge as a static world, but rather as a world steadily being discovered—one might almost say, seemingly being visibly created by the combined efforts of professors. At the turn of the century, Friedrich Paulsen, one of the most articulate writers on German higher education, summed up the case for the German university in this fashion: "The [German] university's teachers were the true exponents of scientific research," he said, "and its students the scholars of the future."

During the 19th century, the German university reached a level of accomplishment to which other universities had not yet even considered to aspire. Its triumphs in its aim to advance knowledge were everywhere the glory and the envy of the academic world. In time almost all non-German institutions of higher learning which were alive came to feel its influence and then sought to make themselves over in its image. Certainly our leading and most ambitious American institutions did. And we continue to honor this German ideal. But we were never able—perhaps never really wanted to serve only this ideal. Always what appear to have been rather typically American considerations of utility exercised a complicating and withstanding hold on our hearts and minds.

There were voices in our country calling for practical education, for instruction in the agricultural, mercantile, and mechanical arts long before the passage of the Morrill Act—those of Franklin, Jefferson, Wayland among others. Harvard had a scientific school as early as 1847, and it was not the first of its kind. All along there had been iconoclasts arguing that higher education should be adapted to the needs of what Ezra Cornell called "the industrial and productive classes of society," and all along their voices have been heard—on balance, we believe, to advantage. This has contributed to make today's American university the hybrid creature it is.

The question I pose is whether within this curious, multiform, overworked, but advancing, even erupting, institution there is now any central idea or concept to hold the American university together. Despite all its service functions, despite all the distractions occasioned by demands from many kinds and conditions of

people, despite the variety of interests it serves, the extent of the field of knowledge with which it wrestles, and its incredible array of enterprises, it is, and remains, before all else, and in the midst of all else, a community for learning —a community in which all participants continue steadfastly to hold learning in high regard.

Long ago, speaking of German universities, Paulsen said there was not one of them which had not sent out men who became distinguished scientists and others who played other important roles in the developing life of their country. He said that because of this each university harbored within it a sense of history and of high endeavor, and that everyone who came into the university community was encompassed by its atmosphere of historic life and took something of it with him when he left. Cannot we say the same?

Earlier, Savigny spoke, with the aristocratic overtones of his time, concerning the power for inspiration and motivation which lies within university communities. He said that the universities' value lay not in "the perfect learning of their teachers or in the ever-growing learning of their students" ("If we should name this as their distinction," he said, "a mirror would often need to be held before us to our shame"), but rather that in them "there is given a scheme, wherein every important educational talent finds its development . . . through which every advance of science finds easy and rapid entrance, [and] by which is made easy the recognition of the higher calling of exceptional men, and in which even to the poorer existence of more limited natures a higher sense of life is imparted."

In another idealistic passage, making no allowance for degrees of merit, Newman spoke of the university as "an assemblage of learned men zealous for their own sciences, and rivals of each other, brought by familiar intercourse and for the sake of intellectual peace, to adjust together the claims and relationships of their respective subjects of investigation, and to learn to respect, consult, and aid each other." Though scholars today often appear to pursue separate ways within universities quite unaware of their colleagues' existence—certainly without all quarrels adjusted—still by and large they all are, and know they are, working in a common vineyard. They know that it is not their specialties but "learning" in its double sense—both as a constantly developing field of knowledge and as an intellectual process—which they have in common. The connecting link for all within the university remains learning thus understood, a compact of knowledge, effort, and hope.

In America the university grew from the college, and the university continues to have an undergraduate college within it. I hope it always will. It is the function of the college to create a world of mind where the accumulated intellectual experience of the race is held in honor and kept viable. It provides a map and a guide to the realm of knowledge and admits students presumably capable and interested in exploring that map. Admittedly, these students often have other aims in mind when they come—aims both social and vocational. But if the work of college teaching is well performed and if the community properly speaks to the needs of undergraduates, the inadequacy of early ideas will be made good and some measure of pride and joy in learning instilled before these students depart.

But larger than the college is the university. Here must go on learning at its highest, best, and most inclusive—and discovery in learning. Today the activity of learning breaks out in a multitude of unanticipated and often untried directions. Wherever the affairs of men call for intellectual analysis, discrimination, criticism, formulation, concern—here must the university follow. The important point is that we must continue steadily to refuse ever to do this on easy, unintellectual, or cheapened terms.

The University of North Carolina has been growing for almost two centuries. The combined conception of its function and proper task held collectively by all who live and work here has been imponderably extended, deepened, enriched beyond anything the predecessors at any earlier period of its history could have foreseen or intended. Despite the fears of those who resisted every change, neither loss nor chaos has resulted. Rather, gain.

And so at the end I return to my question: Is there a central dominating idea enlivening the American university today? The answer is, most certainly, yes. For such an idea is formed in the devotion to learning which permeates the whole community and in the recognition of learning's importance for a full manner of life.

Undaunted by repeated misunderstanding from outside, undeterred by confusion, some uncertainty and failures within, lively and free, the American university continues to pursue its high aim, stronger today, better staffed, better equipped for its task, more relevant, more vital, and more central to us than ever before. It has moved into new fields and is constantly being called upon for more and more services. It has been receiving increased support—and needs more. It is steadily winning for its work a larger

percentage of the nation's talent. So vastly has it grown and multiplied its purposes that at a quick glance it might appear to have become a wholly new kind of institution. But it remains an extended and improved version of what it has always been—what it was that day long ago when the first student came to enroll at Chapel Hill—a community for learning.

Our task is to keep the American university—here and elsewhere—a place of lively learning. For the influence of this remarkable institution is now called upon to spread beyond these shores as our country grows in power and place, and our scholars, recruited from everywhere, join with scholars everywhere in the endless pursuit of truth.

It is not too much to say in the autumn of 1960, at the exercises to honor the University of North Carolina, that the American university's full mission has only scarcely begun.

How Trustees Judge a College President

By TYRUS HILLWAY
Professor of Education, Colorado State College, Greeley

How and upon what grounds do trustees in our colleges and universities evaluate the work of college presidents? How do they determine whether a president is effective in carrying out his responsibilities or whether he ought to be replaced? These are questions upon which only the faintest light has been shed by recent educational research. A vast amount of heat admittedly has been generated in debates regarding the characteristics and functions of the people who sit on boards of trustees,[1] and numerous comments have been forthcoming regarding the proper selection of college presidents.[2] For information about the actual (and extremely important) relations maintained between presidents and boards, however, the sources are chiefly a handful of interesting memoirs by retired presidents and a few sensational case histories rather gruesomely displayed in the newspapers.

In the American institution of higher learning, over-all control ordinarily resides in a body of laymen trustees, among whose principal duties is the selection of a president or chancellor. The arrangement very closely resembles that of an American business or industrial corporation. The president, as general manager, administers the affairs of the institution under broad policies approved not by the faculty, but by his board.[3] In Europe, on the other hand, the policies of universities are determined for the most part by the professional men who comprise the faculties, though these are subject in some degree to general control by governmental ministries of education. Which plan operates the more effectively remains a matter of controversy.[4]

Since the typical American board of trustees manages its institution through the agency of the president, some form of supervision by the trustees and periodic evaluations of the president's achievements and failures may logically be assumed. Only a dull-witted or a lazy board, one may safely assert, would so cavalierly shirk its duties as to select a president and then allow him completely free rein to run the institution in any manner pleasing to himself. Boards customarily weigh the president's educational policies, pass upon his proposed annual budget, serve sometimes as courts of appeal against his decisions, and perform a number of other functions of a clearly supervisory nature. If a president should prove incompetent, untrustworthy, or in any other way unsuitable, for the welfare of the college they may—and should—put him out of office.

To seek further light on the various methods by which the trustees measure success or failure among our college presidents, the writer made an attempt early in 1960 to secure information on the subject from a representative group of board members. After eight preliminary interviews at which board of trustees' methods of evaluation were discussed in detail with individual trustees of higher institutions in the New England and Rocky Mountain regions, it was

[1] For some recent examples, see, among others, K. F. Burgess, *Association of American Colleges Bulletin*, 44: 399-407, October, 1958, and H. L. Donovan, *Peabody Journal of Education*, 36: 259-263, March, 1959.

[2] *Cf.*, R. M. Hughes, "A Manual for Trustees of Colleges and Universities" (Ames, Iowa: Iowa State College Press, 1945), pp. 34-43; M. A. Rauh, "College and University Trusteeship" (Yellow Springs, Ohio: Antioch Press, 1959), pp. 23-33; and H. W. Stoke, "The American College President" (New York: Harper, 1959), pp. 71-88.

[3] Evidence need not be adduced here to show that, in many American institutions, members of the faculty are looked upon by the trustees merely as contractual employee-specialists rather than as intellectually independent professional men.

[4] Ruml and Morrison urge a greater exercise of authority by the trustees. See B. Ruml and D. H. Morrison, "Memo to a College Trustee" (New York: McGraw-Hill, 1959).

possible to compile a list of 25 likely factors for trustees to consider in deciding upon the worth of a president, a list of the four main competencies (*i.e.*, institutional management, educational leadership, public relations, and money raising) in which a president might be expected to demonstrate his abilities, and a list of 16 methods that the trustees might employ as the means of learning what a president has actually accomplished. From these lists a questionnaire was prepared and mailed to 355 trustees of colleges and universities in the 48 continental states, both private and public institutions being included and only one trustee being selected from each.

Respondents were asked, first, to identify those factors on List 1 which to them appear most important in evaluating the effectiveness of a college president; second, to specify which of the four presidential competencies mentioned they regard as most vital to the welfare of a college or university; and, third, to mark on List 3 those methods which they most often use in determining whether the president is functioning to the satisfaction of the board. A total of 148 (or about 42%) of the 355 questionnaires were returned in usable form.

With respect to those factors which are considered by trustees in judging the work of the president, the respondents agreed overwhelmingly on 10. These appear in Table 1 in the order of preference.

TABLE 1

Factors Considered by Trustees in Judging Presidents

Factors	Number of Votes	Percentage of Votes
1. Leadership in maintaining high academic standards	133	90%
2. Good judgment in selecting faculty and staff	131	88%
3. Ability to maintain high morale among faculty and staff	128	86%
4. Facility in making friends for the institution	127	85%
5. General intellectual leadership in college and community	125	84%
6. Fairness and honesty in treatment of faculty and staff	119	80%
7. Good judgment in promoting faculty and staff	119	80%
8. Ability to maintain a balanced budget	116	78%
9. Respect accorded him by other educators	114	77%
10. Influence of his moral character on students and faculty	113	76%

In relation to the second list, which names areas of presidential competency, it should be noted that, although each respondent was requested to vote for only one of the four named (the one rated as most vital to the welfare of his institution), many respondents voted for two or more. Perhaps it is permissible to conclude from this multiple type of response that the trustees believe their presidents ought to be versatile men, skilled in more than one aspect of their work. Whether specifying only a single competency as most vital or indicating some combination of two or more, the trustees gave their preference to presidents who are competent primarily as educational leaders—that is, concerned more with academic than with business matters. They expressed the least preference for the president who is a good money raiser and business man.[5] The votes cast for each competency and the percentage of the total vote represented in each case are shown in Table 2.

TABLE 2

Most Vital Competencies of a President

Competency	Number of Votes	Percentage of Votes
1. Educational leader	78	52%
2. Management executive	67	45%
3. Public relations expert	41	27%
4. Money raiser and business man	24	16%

This leaves the question of what methods trustees actually employ to judge the president. Out of a list of 16 possible methods, only five seem to be used with any regularity. These are listed in the order of their frequency in Table 3.

TABLE 3

Methods Used in Judging Presidents

Method	Number of Votes	Percentage of Votes
1. Discussions with other trustees	114	77%
2. Examination of president's report	105	71%
3. Over-all impression from many sources	103	70%
4. Discussions with alumni and the public	101	68%
5. Discussions with the faculty	84	56%

Such likely methods of evaluation as periodic visits to the campus, visits to other colleges for purposes of comparison, discussions with students, attendance at social and athletic events, and classroom visitations appear to be used only rarely. Three institutions among those included

[5] This expression of high regard for the educational leader and comparatively low regard for the money raiser may surprise members of college faculties. See T. Hillway, SCHOOL AND SOCIETY, 87: 306-308, Summer, 1959.

in the study have gone to the trouble of preparing systematic standards for judging the president's performance.[6]

That college and university trustees are quite satisfied with their present methods of judging presidents may be inferred from the comments volunteered on many of the questionnaires. A few respondents objected to the questionnaire itself on the grounds that a trustee "simply knows" when the president is doing a good job. No suggestions of acceptable methods other than the 16 listed were offered. While one may well wonder about the reliability of such methods of evaluation as an "over-all impression from many sources," at least it seems clear that the trustees know what kind of performance they expect. If their responses on the questionnaire are to be believed, what they value most highly in a president is leadership in maintaining academic standards and skill and honesty in dealing with other people. Effectiveness as a business manager would appear less important. While trustees and professors probably arrive at their judgment of a president by different routes, they nevertheless agree in general upon what they desire in a president and upon, at least, *the basis* for judging his effectiveness.

[6] Davis has provided an interesting score card by which the achievements of a president can be rated. See P. H. Davis, *Liberal Education*, 46: 395-404, October, 1959.

AN EDUCATIONAL DREAM

By OTTO KRASH
President, Middle Atlantic States Philosophy of Education Society, Massapequa, N. Y.

SOME DAY the following will appear in the catalogue of some university:

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(Continued on page 56)

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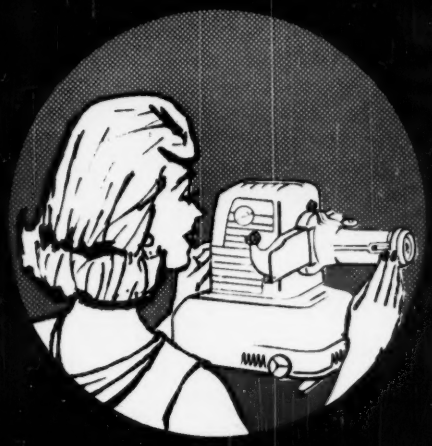

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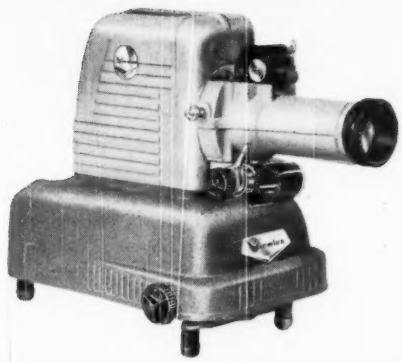

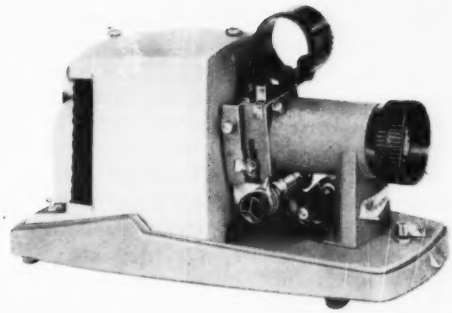

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(Continued from page 53)

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REPORTS

THE DUKE OF EDINBURGH'S AWARD

By PETER CARPENTER
Cambridge (England) Institute of Education

One of the most urgent problems facing educationists in Britain today is the way in which boys and girls in their late 'teens spend their leisure time. The educational system looks after them well enough up to the age of 15, but after that three out of every five do not receive any further education (full-time or part-time) during the day. Their spare time, in any case, is their own and some of them know how to put it to good purpose. On the other hand, the temptations to fritter it away are manifold these days, and there are others who are unable to resist these temptations.

As a safeguard against the latter, there is the Youth Service, which is provided partly by the local education authorities and partly by the voluntary youth organizations. The Service, however, is hopelessly inadequate and has succeeded in attracting, at the most, only one-third of the 15-20 age group. A committee, appointed by the Ministry of Education, recently recommended far-reaching reforms. Until these are implemented, The Duke of Edinburgh's Award is undoubtedly the most significant of several programs offering voluntary participation in purposeful leisure-time occupations.

The Award was first instituted in 1956 for boys aged 14-19. It consists of a number of activities which fall into four categories: Rescue and Public Service—first aid, fire service, mountain rescue, etc.; Expedition—map-reading, camping, walking, canoeing, etc.; Pursuits and Projects—individual tasks requiring perseverance and skill; and Physical Fitness—athletics, swimming, and gymnastics events. In all these activities, standards of achievement have been set.

The Award, which is in the form of a certificate and badge, is at three levels: Bronze, Silver, and Gold. To qualify for it at any level a boy must pass the required standards from all four categories. Within each category, however, he has a wide choice of activities in view of the aptitudes and interests which differ from individual to individual and facilities which differ from locality to locality. For these reasons, although the over-all policy is directed from the Award Office in London under its Secretary, Sir John Hunt, the actual running of the scheme has been placed locally into the hands of schools, firms, youth clubs, etc.

Since 1956, the number of boys taking part in the scheme and of organizations sponsoring it has been going up steadily. The standards have been found to be within reach provided a determined effort is made and most of the difficulties encountered have been of an organizational nature. In 1958, an Award for girls was introduced which operates on principles similar to the boys' outlined above.

It is still too early to assess the full measure of the contribution of The Duke of Edinburgh's Award to education for leisure. Those who are in close contact claim to detect an awakened sense of responsibility and an increase in initiative and perseverance as a result of challenging experiences which are entirely new to many boys: giving service to the community in an emergency situation, finding or developing a latent aptitude, or discovering the glow of achievement following the completion of a physical feat under stress. It is, indeed, unlikely that two years' or so participation (which it takes to gain, successively, the Bronze, Silver, and Gold Awards) will have left no impact on their character.

The real test is whether the Award will succeed in attracting those boys and girls—the majority—who, having left school, do not attach themselves to any of the voluntary organizations. Since the scheme is primarily intended for the average rather than the gifted, it is the former who could profit most from it. Not enough is known yet about the reactions of the "unattached," because for the first three years the scheme was run as a limited experiment. The best prospect of enrolling them is during their last year at the secondary modern school from which come most of the 15-year-old leavers. This is the task ahead.

Michigan Seminar for Foreign University Administrators

By M. M. CHAMBERS
Visiting Professor of Higher Education
The University of Michigan, Ann Arbor

THE UNIVERSITY OF MICHIGAN, under contract with the U.S. Office of Education, provided a three-week seminar on "University Administration in the United States" for nine heads of universities in other lands who were present on the campus, Oct. 24-Nov. 11, 1960. Participants from overseas were Javier Becerra, president, National University of Agriculture, Peru; Saroj Buasri, president, College of Education, Bangkok, Thailand; Ahmad Farhad, chancellor, University of Tehran, Iran; Raden Goenarso, dean, mathematics and physics, Institute of Technology, Bandung, Indonesia; Advertus A. Hoff, dean of administration, University of Liberia; Ricardo Rey, dean, faculty of engineering, Catholic University of Peru; Rogelio Sotela, dean, faculty of law, University of Costa Rica; Parasar Narayan Suwal, registrar, Tribhuban University, Kathmandu, Nepal; and Yuan-Tsai Tu, president, Provincial Normal University, Taipei, Taiwan. Mrs. Siri Buasri and Mrs. Lia M. de Sotela accompanied their husbands.

The Center for the Study of Higher Education, which was responsible for organizing the program, designated M. M. Chambers as project director. The visiting university heads had lectures and discussions with Pres. Harlan H. Hatcher, University of Michigan, and with each of five vice-presidents, as well as with Paul L. Dressel of Michigan State University, John W. Hollenback of Hope College, and members of the faculty of the center, including Director Algo D. Henderson, Prof. John S. Brubacher, and Associate Profs. James M. Davis and Raymond J. Young. Each dean and director on the Ann Arbor campus lectured on and discussed his specialty on both national and local levels. Field trips were made to Michigan State University, East Lansing (College of Agriculture and College of Veterinary Medicine); to Flint to inspect the Flint College of the University of Michigan and the Flint Junior College; and to Dearborn and Detroit to visit the Dearborn Center of the University of Michigan, the Henry Ford Community College, and the Detroit Extension Center.

Among some of the occasional diversions were a concert by the Boston Symphony Orchestra at Ann Arbor, the Big Ten football game between Michigan and Illinois, and a tour of Fair Lane, the former Ford family mansion at Dearborn. There was a guided inspection of the principal facilities of each of the 16 colleges and schools on the Ann Arbor campus. The seminars on university administration, in addition to those already mentioned, included a session with Alexander G. Ruthven, president emeritus, University of Michigan, and lecture-discussion periods with the heads of all the student personnel offices, including the directors of admission, registration, and records, the Health Service, the International Center, the housing authorities, and others.

The distinguished visitors from overseas adhered to their group program in general and were usually accompanied by the five postdoctoral Michigan Fellows in College Administration who currently are spending a year at the Center for the Study of Higher Education, with mutual advantage. Since the foreign guests represented various professions and special interests, there was some latitude for each to spend more time with certain schools or departments which especially attracted him than the regular group schedule indicated. The fact that a university is truly a multiversity was made evident vividly by the three-week experience; yet the visitors gained an impression that higher education in the United States, vast, varied, and decentralized

though it is, nevertheless has a certain unity and simplicity of purpose. Best of all, the scores of friendships they made during their sojourn in Michigan have established ties of amity around the world among universities and university administrators.

DOCUMENT

Educational, Cultural, and Scientific Plans of Communist China

Translated by Don-chean Chu
Professor of Education, Bob Jones University, Greenville, S. C.

TRANSLATOR'S INTRODUCTION: In order to indoctrinate the people conforming to Marxism and to make them efficient economic producers for the state, Chinese communists have assigned educational programs top priority, second only to military operations. Since 1949, when the communists conquered China, four educational reforms have been enforced under the party leadership and control. Every year there is an educational plan, an integral part of the scheme of national affairs, made by the central government. On March 30, 1960, Lee Fu-chun, Vice Premier and director of the National Planning Committee of the People's Republic of China, presented to the second session of the second all-China People's Congress "A Report Concerning the 1960 National Economic Plan (draft)." This report, containing the educational plan, was printed in full in the *Jen Ming Jih Pao (People's Daily)*, Peking, March 31, 1960. The following translation constitutes section nine of Lee's report.

Educational Enterprises

A. Number of students to be enrolled in various types of schools in 1960:
   1. Institutions of higher learning—280,000
   2. Middle professional schools—600,000
   3. General senior middle schools—800,000
   4. General junior middle schools—4,000,000
   5. Agricultural and other vocational middle schools—2,800,000
   6. Higher agricultural schools—21,000
   7. Middle agricultural technical schools—80,000
   8. Elementary schools—21,000,000

B. Schools and spare-time education: In addition to the full-time and half-time schools, all governmental departments and branches, every business enterprise, and every people's commune must develop spare-time education.

C. Policies for developing education:
   1. To adopt various types and multiple forms of schooling, and motivate fully the positive spirit of all the people everywhere to develop education under the total planning and the party leadership
   2. To persist in the following guiding principles: education serving the proletarian politics, education combining with productive labor, development of more education for all, and raising of educational standards for some
   3. To develop emphatically the middle schools and higher institutions for serving the local production program in every province, autonomous district, municipality, and county under the total national plan

Scientific Research

A. Training more research personnel and increasing the amount of equipment.

B. Further uniting scientific research, education, and production: The scientific research organizations are mainly for theoretical studies, yet they must train technical workers and undertake productive projects on a minor scale. The institutions of higher learning and the middle vocational and technical schools are mainly educating various personnel, yet they must also carry on scientific research and engage in productive activities on a minor scale. The productive enterprises are primarily for material production, yet at the same time they must do some research and train some technical personnel.

C. Mobilizing all the scientific personnel to study the world's latest scientific and technical achievements, summing up the rich practical experiences of the masses, and seeking the fulfillment of the "Twelve Year Scientific and Technological Plan" within a shorter period of time than planned.

Cultural Enterprises

The guiding principles of cultural development are total planning, accelerated efforts, stressing key "areas," and raising quality. Cultural enterprises must closely co-ordinate with, and effectively promote, the "leap forward" of industrial production and the technological advancement in China; it must also build up the high spirit of the socialistic and communistic movement.

Concerning movie production, more films on scientific education should be made. In this year, eighty films under the category of "stories" will be produced. Four thousand film-projection teams, mainly for rural areas, will be organized. In the field of publications, it is imperative to supply adequately the classic works by Marx, Lenin, and Mao Tse-tung. Improving the textbooks and reading materials for those who are newly literate, and publishing more books in science and technology are to be stressed. The various cultural activities, especially in the rural areas, must be emphatically and ceaselessly developed.

The strengthening of the training of pivotal officials and the raising of standards of working teams in arts and culture will be continued. Also, the cultural enterprises of the minority group and that of the remote and border areas must be developed to a greater extent.

Hygiene Work

The fundamental policy for better hygiene of the people is full mobilization of the great masses; every home should be well informed, and every one must act. It is also the guiding principle to closely combine the following three into one: the hygiene program, the great "leap forward" of economic production, and the cultural and technical revolution. Along this line, the county hospitals (centers for strengthening the medical and preventive work) should positively support and serve agricultural production.

Some of the works in hygiene for 1960 will be as follows:

A. Adding 45,000 hospital beds and a great number of "simplified beds."
B. Continuing the mass hygiene program, such as eliminating the "four enemies,"[1] eliminating major diseases, and promoting general health.
C. Extensively passing on to others the experiences of the hygiene program in Gi Shan County, Shanshi, and Fun Shan municipality of Kwangtung.

In the field of physical education, the athletic activities for masses in the cities and rural areas must be developed continuously. The principle of the physical education is the raising of health standards of the masses. The specific activities that should be promoted are calisthenics, ball playing, racing, mountain climbing, swimming, shooting, boxing, etc.

Finance

The total appropriation for the fundamental construction of education, culture, scientific research, and hygiene in 1960 is 1,127,000,000 *yuans*,[2] 65.7 per cent more than that of 1959. The educational expenditure of 1960[3] is nearly double the amount spent in 1959.

[1] "Four enemies" are flies, mosquitoes, rats, and bedbugs.—*Translator.*

[2] Each *yuan* is equal to 42¢.—*Translator.*

[3] The 1960 national budget for educational, cultural and social work and scientific research is 8,620,000,000 *yuans*, 12.3% of Communist government's total expenditure of the same year. Sources of these financial figures include *Jen Ming Jih Pao (People's Daily)*, Peking, April 1, 1960, p. 2.—*Translator.*

RESEARCH

Effect of Increasing Class Size in College

By LOUIS LONG and JAMES D. PERRY
Division of Testing and Counseling, The City College of New York

THERE ARE MANY INDICATIONS that constructive efforts to help provide more adequate college facilities are being made by educators, college administrators, foundations, and business organizations. Whether this is being done fast enough is a highly debatable question. Yet it is encouraging to see the effort that is being made by colleges. This paper discusses one such effort: how colleges can make more adequate use of their teaching personnel. In particular, it will describe experimentation on class size that has been carried on at City College over the last few years.

Several departments at City College have been experimenting with the effect of increased class size on the effectiveness of the teaching process.

Traditionally, City College has emphasized small section size (25 ± 5 for many years: 30 ± 5 more recently); this has been true of most of the classes regardless of whether it was a class in mathematics, social science, or foreign language. The interest in increasing class size has been motivated by two factors: the College can more adequately meet the "bulge" or increased demand for college education and the College can try to reduce the average teaching load per instructor (15 hours per week).

The several departments have used different combinations of lecture time, recitation time, and hours available for conferring individually with students as class size has been increased. The actual increase in class size also has varied. In some instances, rather carefully controlled experiments have been set up, whereas in others an attempt has been made to evaluate the effect of increased class size in a very loose and uncontrolled manner.

The decision as to how the teaching time would be used was made by each of the subject-matter departments. In some instances, the writers have been involved in the initial planning and consequently were in a position to make certain suggestions about measures that might be obtained to use in matching the groups; in other instances, we were told of what had been done and were then asked if we could figure out some way of evaluating the change. We wish to acknowledge the help and co-operation we received from the teaching departments.[1]

History Department

A. *Uptown Center.* In 1956-57, certain instructors were scheduled to teach one or more sections of the same courses in history and social studies. Class size was "typical" in the fall but increased during the spring: the average number of students per class was 26 in the fall and 35 in the spring; the range for the fall was 20-39 and the range for the spring was 29-39. Thus, section size was increased but the increase was not uniform. The method of instruction was varied in the sense that conference hours and regular office hours were established by the instructors during the spring term but not during the fall term. However, the classes met the same number of hours and the same number of times each week during both semesters. The instructors participating in the study agreed to administer the same objective examination at the end of each of the two terms in each section of the particular course involved in the study. Since the high-school average is the best single predictor of college work at City College, it was used as a means of equating the students in each instructor's classes in each course for the two terms. In four of five comparisons, the difference in the high-school averages between the two groups was not great enough to be considered statistically significant. In three of the five comparisons, the average scores on the objective examination did not differ significantly when the two terms were compared. In one instance, the smaller section size group did significantly better than the larger section size group; in another instance, the reverse was true (this also happens to be the group where the high-school average was significantly higher). If final grades of the larger and smaller groups are compared, there are no significant differences between the groups, except where the high-school average was significantly higher for the larger group—as is the average final class grade. In evaluating these results, the lack of consistency makes it difficult to draw a definite conclusion, but it seems reasonable to say that under the conditions of this study no evidence was found to support the hypothesis that increasing class size will affect the performance of the students adversely.

B. *Baruch School.* A modification of the above experiment was tried by an instructor in History 2 at the Baruch School. During the spring term, 1957-58, the instructor taught several sections of History 2, with section size ranging from 26 to 32 and with no scheduled office hours; during the fall term, 1958-59, he taught two sections of the same course, with 43 students in one section and 39 in another, and office hours for consultation with the students were scheduled. He was interested in finding out whether these changes affected the performance of the students.

In searching for a measure to use in matching the two groups, the authors correlated the following variables with grades in History 2: total score of the ACE Psychological Examination (ACE), L score of the ACE, high-school average, Entrance Composite (high-school average and entrance examination scores), first term college grade-point average, final grade in History 1, and final examination grade in History 1 (Table 1). The last measure was obtained by the instructor regrading all of the final examination papers of the students involved in the experiment. This was done to control the variation in the grading when more than one instructor was involved. None of the differences between the means for the experimental

[1] The writers would like especially to thank Prof. Bernard Bellush (History), Mrs. Joan M. Gadol (History), Prof. Frank A. Rappolt (Drafting), Prof. John R. White (Civil Engineering), and Prof. Joseph E. Wisan (History).

TABLE 1
Correlations Between History 2 Grades and Matching Variables

Variables	Control Group N = 82* r	Mean	S.D.	Experimental Group N = 55* r	Mean	S.D.
High School Average	.43	81.1	5.4	.43	82.0	4.5
Total ACE Score	.04	108.0	22.1	.16	111.0	19.2
L Score of ACE	.10	64.9	14.8	.25	64.8	13.6
Entrance Composite	.39	163.8	7.7	.38	165.0	6.2
First Term College Grade Point Average	.49	77.4	6.2	.41	75.5	6.3
Final Grade in History 1	.31	80.1	8.7	.44	77.4	7.6
Re-graded History 1 final exam	.55	64.2	14.5	.50	68.8	10.9

* Complete data available for all of these students.

and control groups for these seven variables were large enough to be considered statistically significant (*i.e.*, P – values > .05), except the re-graded History 1 final examination (P – value > .02 < .05) where the experimental group did significantly better than the control group. The best predictor of History 2 grades was the re-graded History 1 final examination. Ideally, the predictor study should involve an independent and separate sample, but because of circumstances it was not possible to develop the predictor in one group and then apply it to the control and the experimental groups. The mean grade in History 2 for the students in the control and experimental groups did not differ significantly (Table 2).

TABLE 2
Grades in History 2 for Experimental and Control Groups

Experimental Group N	Mean	S.D.	Control Group N	Mean	S.D.	P-Value
55	76.1	10.0	82	77.8	10.4	> .05

Drafting Department

During the spring, 1957-58, and the fall, 1958-59, the Drafting Department set up experimental and control groups in the basic drafting course. The control sections were of the usual size (average for 16 sections was 14, with a range from nine to 19 students), whereas the experimental sections were enlarged to include, on the average, 27 students (range from 19 to 34 for eight sections).

In the spring, the experimental and control groups were compared with regard to high-school average, Entrance Composite, tests measuring Comprehension of Scientific Materials, General Mathematical Ability, and Spatial Visualizing Ability (tests constructed by Kenneth W. Vaughn). The critical ratios were such that the P – values were all greater than .05, except for the test measuring Spatial Visualizing Ability (where P was .02), in favor of the experimental group. These measures, used to compare the two groups, also were correlated with final grades in Drafting 7. The correlation between the final grade in drafting and the test measuring Spatial Visualizing Ability was considerably higher than the correlation for any of the other variables. Consequently, it was important to match the groups on this variable. The experimental group was superior to the control group. When final grades in drafting for the two groups were compared, the mean grade for the *experimental* group was significantly higher than the mean for the control group (Table 3).

In the fall, the high-school average and scores on the test measuring Spatial Visualizing Ability for the experimental and control groups again were compared. The groups did not differ significantly on either of these variables. When final grades in Drafting 7 were compared, the groups did not differ significantly (Table 3). It would seem that increasing class size does not affect the performance of the students.

TABLE 3
Mean Grades in Drafting for Experimental and Control Groups

Spring, 1957-58 Groups	N	Mean	S.D.	P-Value
Experimental	102	66.9	16.7	< .01
Control	103	60.6	17.9	
Fall, 1958-59 Groups	**N**	**Mean**	**S.D.**	**P-Value**
Experimental	107	65.9	16.7	> .05
Control	111	66.0	16.8	

Civil Engineering Department

Beginning with the spring, 1956-57, the Civil Engineering Department began an experiment with increased section size in two of its basic courses.

Mechanics of Material I (CE 110). The usual arrangement is for the 20-24 students in each section to meet for one hour of recitation on each of four different days. In the spring, 1956-57, about two-thirds of the students registered (in a random fashion) for sections meeting as described above (control sections). The other third registered in five experimental sections (each section roughly the same size as the control sections). The five experimental sections met together for one hour of lecture on two different days and then met as a separate unit for one hour of recitation on each of two other days. A rather similar arrangement was used in the fall, 1957-58 and 1958-59.

The experimental and control groups for

these three semesters were compared on the basis of: college grade-point average, Entrance Composite, high-school average, and total score on ACE. The differences between the experimental and control groups on all of these variables (Table 4) were chance differences ($P > .05$). Therefore, the groups did not differ in ability.

When the experimental and control groups for these three semesters were compared with respect to final examination grades, it was found

TABLE 4
Comparison of Experimental and Control Groups in CE 110

A. Matching data

Semester	Total ACE Mean	Total ACE S. D.	H.S. average Mean	H.S. average S. D.	Entrance composite Mean	Entrance composite S. D.	College grade-point average Mean	College grade-point average S. D.
Spring, 1956-57								
Experimental (N=60)	113.5	17.9	84.2	3.9	168.6	7.2	80.6	6.2
Control (N=90)	109.4	21.8	82.3	4.3	164.9	7.9	79.1	5.6
Fall, 1957-58								
Experimental (N=105)	117.6	19.1	84.6	4.2	168.6	6.8	80.1	5.8
Control (N=120)	115.9	19.5	84.6	4.9	168.6	8.2	80.7	6.2
Fall, 1958-59								
Experimental (N=148)	114.5	11.4	84.6	4.1	169.3	7.0	79.9	5.2
Control (N=83)	112.6	14.7	83.9	5.0	168.0	9.3	80.4	5.1

B. Performance on final examination

	N	Mean	S. D.	P-Value
Spring, 1956-57				
Experimental	60	71.0	14.4	
Control	85	63.7	16.1	.01
Fall, 1957-58				
Experimental	105	75.2	12.0	
Control	120	75.3	13.8	> .05
Fall, 1958-59				
Experimental	148	65.7	18.0	
Control	83	71.4	17.1	.01

TABLE 5
Comparison of Experimental and Control Groups in CE 120

A. Matching data

Semester	Total ACE Mean	Total ACE S. D.	H.S. average Mean	H.S. average S. D.	Entrance composite Mean	Entrance composite S. D.	College grade-point average Mean	College grade-point average S. D.
Spring, 1956-57								
Experimental (N=35)	112.5	21.5	82.9	5.3	166.7	9.2	79.2	5.5
Control (N=69)	115.0	20.9	83.3	4.5	167.5	8.1	80.0	6.2
Fall, 1957-58								
Experimental (N=54)	120.1	22.2	84.4	4.4	168.9	8.0	80.4	6.0
Control (N=77)	112.7	17.4	83.8	4.5	167.5	8.0	79.6	5.8
Fall, 1958-59								
Experimental (N=72)	115.4	12.4	84.7	4.3	170.0	8.2	80.9	5.8
Control (N=74)	114.4	13.5	84.1	4.0	168.8	8.0	79.8	5.5

B. Performance on final examination

	N	Mean	S. D.	P-Value
Spring, 1956-57				
Experimental	35	73.9	9.7	
Control	69	71.6	10.6	> .05
Fall, 1957-58				
Experimental	54	72.4	11.5	
Control	77	72.6	13.2	> .05
Fall, 1958-59				
Experimental	72	67.0	15.4	
Control	74	66.7	13.2	> .05

in one case that the experimental group did better than the control; in another case, just the opposite; and in the third case, the difference between the averages was only one-tenth of a point (Table 4). The first two differences were great enough to be considered statistically significant.

Fluid Mechanics I (CE 120). Typically, this course meets one hour a day on three different days with 20-24 students in each section. Beginning with the spring, 1956-57, about 60% of the students registered (in a random fashion) for sections meeting as described above (control sections). The other 40% registered in four experimental sections (each section roughly the same size as the control sections). The four experimental sections met as a unit for a 75-minute period each week for lecture purposes and then each experimental section met as a separate unit for another 75-minute period each week for recitation purposes. A rather similar arrangement was used in the fall, 1957-58 and 1958-59.

The experimental and control groups for these three semesters were compared on the same background variables as were used with the other CE course. The differences between the experimental and control groups on all of these variables were chance differences (Table 5). It was concluded, therefore, that the group did not differ in ability.

For these three semesters the differences between the means on the final examinations for the experimental and control groups were not found to be great enough to be statistically significant (Table 5).

Conclusion. The results of the studies at City College can be summarized by saying that increasing class size did not produce any adverse effects. The authors agree wholeheartedly with the following summary statement: "Although experimental evidence does not provide a clear-cut answer to the class-size issue, the general trend of evidence places the burden of proof squarely on the proponents of small classes."[2] We also feel that "the quality of the teacher has far more effect on student learning than the methods of teaching used or the size of the class taught."[3]

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[2] Walter S. Monroe, editor, "Encyclopedia of Educational Research" (New York: Macmillan, 1950), p. 215.

[3] "Better Utilization of College Teaching Resources" (New York: Ford Foundation, 1959), p. 10.

CONFERENCE REPORT

Improving High-School Mathematics

A LARGE PROPORTION OF STUDENTS is able to learn and use mathematics as a system of reasoning—and learn it much earlier—than is now common. The present cadre of teachers can learn to teach this improved mathematics. These are the shared opinions of the directors of the nation's three largest programs of revision in high-school mathematics. E. G. Begle, director, School Mathematics Study Group; Julius Hlavaty, director, Commission on Mathematics, College Entrance Examination Board; and Max Beberman, director, University of Illinois Mathematics Program, appeared together at the Thomas Alva Edison Foundation Institute, Nov. 17-18, 1960, before 340 teachers and school principals of the Pittsburgh area.

Paul C. Rosenbloom, mathematician, University of Minnesota, spoke on the need to update the mathematics curriculum due to the upgrading of all education and occupations. He asserted that the three programs now being tried incorporate no mathematical advance less than 50 years old. Universal acceptance of any of these programs would bring the 1960 high-school program mathematically up to 1910.

Carroll V. Newsom, president, New York University, and mathematician, stressed that the development of mathematics has been tied closely to the natural sciences. In the pre-college years, it is probably best to present mathematics inductively, rather than deductively and systematically. Dr. Newsom urged greater research on student motivation in mathematics.

W. W. Sawyer, noted mathematics educator of Wesleyan, considered intuition the decisive factor in learning mathematics. He urged every college teacher to teach algebra to fifth-graders once a week, as he is doing. Programs for teaching modern higher algebra, he cautioned, should not lead to neglect of "ancient lower algebra."

Herbert J. Greenberg, research manager of mathematics, IBM Research Center, said that mathematics is the language necessary to open the door to the world of science. The primary task of the teacher of mathematics, he stated, is to make his students literate, able to read and

write the language of science. Comparing the tasks of the English and mathematics teachers, the English teacher has the advantage that a student already knows the elementary context of English before he starts school. Students who were taught mathematics divorced from the context of science can learn to manipulate formulas but seldom can read it or handle ideas in mathematics. He urged reform of the presentation of mathematics from the child's earliest years and set the goal of literacy in mathematics by high-school entrance.

Barry Commoner, chairman, Committee on Science in the Promotion of Human Welfare, American Association for the Advancement of Science, and molecular biologist at Washington University, St. Louis, called for broad measures to widen popular knowledge of science. Basic political decisions today, like the proposed suspension of nuclear bomb tests, require moral judgments which should not be left to technical specialists.

Research mathematicians, J. Laurie Snell of Dartmouth and Samuel Eilenberg of Columbia, spoke on the fields of finite mathematics and algebraic topology, both areas new to the college curriculum since the time many teachers of mathematics were trained.

Plenary and panel sessions afford opportunities for Pittsburgh teachers to learn more about the three new mathematics curricula.

The Commission on Mathematics recommends numerous gradual improvements in college preparatory mathematics courses, with suggestions for training elementary and secondary school teachers. It supplies material for teachers, with stress on deductive reasoning in algebra, reducing required geometric theorems, and introducing co-ordinate geometry and some statistical thinking.

The School Mathematics Study Group, centered at Yale, has developed texts for grades 7 to 12, representing a collaboration of about 1,000 experts and teachers. These now are being used by more than 100,000 students in about 3-4% of U.S. junior and senior high schools. Dr. Begle said that a teacher could learn in one summer enough additional mathematics to teach SMSG courses.

The University of Illinois Mathematics Program, now in its 10th year, has produced texts from grades 9 to 12, teachers' guides, and films. It includes Boolian algebra and algebraic sets. The program is taught in 144 schools across the country by teachers who in most cases have had two summer courses. For best results, Dr. Beberman recommends at least two summers of teacher training before and after first using the Illinois materials, for which texts now are available commercially.

GEORGE E. PROBST
Executive Director
Thomas Alva Edison Foundation
New York City

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ENGINEERING TEACHER INCOME UP

THE AVERAGE total professional income of engineering teachers has increased by 14.7% in the past two years, according to a report by the Engineering Manpower Commission of Engineers Joint Council. The survey, made possible through a grant from The National Science Foundation, covers over 5,000 engineering teachers, or more than half the total number.

Of the average total income of engineering teachers, 77.5% is basic teaching salary with the remainder derived from outside professional work such as consulting and research. Since the survey was first made in 1956, average basic teaching salaries have risen 31.1% and income from "outside sources," 11.3%.

Today's average basic teaching salary for engineering teachers in American colleges is $8,534. It is supplemented by an average of $2,479 from outside professional income.

In public institutions the rise in total income (15.6%) was greater than that in private institutions (12.5%), due more to higher outside earnings than to a difference in the rise of basic teaching salaries. Such outside earnings for engineering teachers in public institutions increased 24.8% during the last two years as opposed to only 11.3% in private institutions. The basic teaching salary increase was 13.4% (public) compared with 13.0% (private).

Other statistics of the report show that salaries increase with age, academic rank, and type of degree; that the median teaching salary for instructors is $5,380 and for full professors, $10,500.

"Salaries and Income of Engineering Teachers—1960" is the title of the report. The survey was conducted in co-operation with the American Society for Engineering Education and prepared for the Manpower Commission by Prof. Morris A. Horowitz, Bureau of Business and Economic Research, Northeastern University, Boston. It was released by the Engineering Manpower Commission, 29 W. 39th St., New York 18, N. Y.

EDUCATIONAL PROBLEMS IN THE CARIBBEAN AREA

ONE OF THE BIGGEST OBSTACLES to improved education in the European affiliated islands of the West Indies, British, French, and Dutch Guiana, and British Honduras is inadequate personal and governmental income, according to Charles C. Hauch, U.S. Office of Education, in a new bulletin, "Educational Trends in the Caribbean: European Affiliated Areas." Nearly all of these areas, however, have instituted five- or 10-year plans for economic, social, and educational development. Most of these plans cover the entire field of education, including vocational training. Economically, the region has depended upon agriculture, primarily devoted to staple crops, of which sugar, and, to a lesser extent, bananas and citrus fruits, are the most important.

Despite differences in educational systems in the European Caribbean areas stemming largely from the different national and cultural patterns represented by the United Kingdom, the Netherlands, and France, there are basic similarities in their educational problems and needs. In every case, substantial efforts have been made since

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New RONALD books . . .

KINDERGARTEN—PRIMARY EDUCATION

TEACHING PROCEDURES

IDA E. MORRISON, *Sacramento State College; and* IDA F. PERRY

Ready in March. This textbook gives simple, practical explanations of how to teach the various subjects of the curriculum from kindergarten through the third grade. Stressing fundamental principles of child development and learning pertinent to five- to nine-year-old children, the book offers suggestions for organizing and managing groups, for progressively teaching the several subjects, and for handling emotional and social adjustment problems of young children. For each subject the book presents examples of teachers at work, discusses and describes activities for children, and tells how to prepare material for projects. Because learnings in other areas depend so upon reading abilities, considerable attention is devoted to methods of teaching reading to achieve a balance of skills in this important subject. *1961. 608 pp., 72 ills.* $6.75

TEACHING ELEMENTARY SCHOOL SUBJECTS

Edited by KENNETH L. HUSBANDS, *University of Colorado;*
Prepared by 13 Contributing Authorities

Just Published. Teaching methods and practices in the first six grades written by specialists in each elementary subject are covered in this invaluable textbook. The detailed descriptions of teaching methods reflect sound learning theory and also answer the practical needs of the classroom teacher in getting the subject across. The educational goals and purposes of each subject are clearly stated to explain the best means of teaching each subject and the sequence in which various topics should be presented. Frequent use is made of sample lessons and examples of successful programs in all areas of the curriculum. Throughout, emphasis is on the child and his developing needs—how at the various grade levels each subject contributes to important phases of his growth. Book includes helpful suggestions on classroom management, evaluation of the pupil's progress in each subject, the important uses of audio-visual aids, etc. *1961. 496 pp.* $6.50

MANAGING THE CLASSROOM

THE TEACHER'S PART IN SCHOOL ADMINISTRATION

EDWIN JOHN BROWN *and* ARTHUR THOMAS PHELPS,
—both University of Santa Clara

Just Published. Designed for college courses in classroom management, this textbook acquaints the prospective or beginning teacher with the responsibilities and routines of classroom work. The mechanics of management are thoroughly detailed, with emphasis throughout upon the development of democratic school citizenship. Following a discussion of educational principles, the book explains how effective management contributes to pupil development, presents an operating plan for taking care of administrative details, and delves into the personal and professional relationships essential to the growth of a teacher as an administrator. Each chapter contains a practical problem and questions based on the situation, as well as study questions on the contents and annotated selected readings. *2nd Ed., 1961. 448 pp.* $6.50

EDUCATION FOR COLLEGE

WHAT THE HIGH SCHOOL SHOULD TEACH

ALBERT R. KITZHABER, *Dartmouth College;*
ROBERT M. GORRELL, *University of Nevada; and*
PAUL ROBERTS, *San Jose State College*

Ready in March. This book examines the college-preparatory curriculum of the high school and offers explicit recommendations, subject by subject, for improving what is taught to college-bound students. It assesses the content of courses, the quality of textbooks, the preparation of teachers, and the educational philosophies influencing the curriculum of the high school. Based extensively upon the findings of fifty college professors of the liberal arts and sciences who studied the Portland, Oregon high school system from the standpoint of their subject-matter specialities, the book is a clear summation of more than thirteen volumes of reports. This analysis of what a typical high school teaches, with specific recommendations for improvement, will be invaluable to college faculty members, high school teachers and administrators, and parents. *1961. 224 pp.* $3.50

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World War II to expand elementary school facilities to a point where all children of elementary school age may receive an education. However, school population is rapidly increasing, leading to serious problems of overcrowded buildings in classrooms and to grave teacher shortages.

Although most children in the region quit school after reaching the eighth grade, and a great many children do not even attain this level, there are a few bright spots in the picture. More than 1,400 students from the British Caribbean areas alone were enrolled in institutions of higher education in the U.S. during the 1958-59 school year.

WORLD CONFERENCE ON ADULT EDUCATION

THE SECOND WORLD CONFERENCE on Adult Education sponsored by Unesco in August, 1960, urged governments to make adult education an integral part of national systems of education and of economic development programs, especially in the developing countries. Representatives from 49 countries and 46 international nongovernmental organizations attended the conference at McGill University, Montreal, Canada.

The conference was unanimous in expressing the urgency of extending adult education to all men and women. It noted that, because of the rapidity of technological change and the consequent weakening of traditional cultures, people were "likely to become bewildered, resentful and hostile" when confronted with changes they did not understand. Adult education, including vocational and professional education, also must help close the gap between the expert and the layman.

Among the most important resolutions adopted by the conference were the following, passed unanimously:

1. "The Conference urges governments to regard adult education not as an addition, but as an integral part of their national systems of education."

2. "Economic development programs—bilateral, multilateral and through the United Nations and the specialized agencies—should include adult education in order to prepare the minds of people to receive the benefits and participate actively in improving their own conditions."

3. "Recognizing that the nature of governments' participation in adult education will vary according to the different stages of development and educational traditions in countries, this conference nevertheless affirms that it is the duty of governments to create the conditions, both financial and administrative, in which satisfactory adult education can be carried on."

4. "The conference urges governments to encourage the development of voluntary organizations since, without the freedom, the creative resources, and the experimental approach which should characterize such bodies, an essential element in the education of adults is lacking."

5. "The conference urges all member states to make provision for the necessary facilities—for example, payment of salaries and expenses for travel and subsistence—to enable adults in all occupational groups to participate in adult education (vocational, civic, social and cultural)."

PAROCHIAL SCHOOLS AND PUBLIC EDUCATION

PUBLIC EDUCATION in the U.S. would benefit from an increase in the number and quality of church-affiliated schools, according to the Rev. Gerard S. Sloyan, head, religious education department, Catholic University of America. Father Sloyan declared that public schools are "the glory of the nation, but now that they are well established so that no other schools will be a threat to them, we need to develop more parochial schools of every faith. It goes without saying that a child cannot receive religious nurture in the public schools. If we could reach a common understanding as to curriculum, Scripture or prayer, some teachers, because of the nature of their religious commitment, would still offend some students or their parents."

INSTITUTE FOR COLLEGE ADMINISTRATORS

AN INSTITUTE on College and University Administration will be held at the University of Michigan, June 26-30, 1961. The program will focus upon principles and methods of organization and administration, including discussion of the decision-making process, human relations, and basic skills of administration. The staff will include the faculty of the Center for the Study of Higher Education and other resource persons.

The institute, in its seventh year of operation, is intended for presidents, deans, business officers, etc.; the membership is limited to 60 persons. Information may be secured from the director, Algo D. Henderson, University of Michigan, Ann Arbor, Mich.

NEW ADVISORY COMMITTEE ON AFRICA

THE CREATION of a new National Advisory Committee on Africa was announced in November by Kenneth Holland, president, Institute of International Education. The committee, under the chairmanship of the Rev. Theodore M. Hesburgh, president, University of Notre Dame, will consist of persons who are prominent for their experience, study, or responsibility in relation to Africa. They will consider trends and needs in the growing involvement of U.S. education in Africa, such as the increase of African students in the U.S., the recruitment of American teachers for African secondary schools, and the idea of youth service programs in Africa. They will weigh means of improving the partnership between the U.S. government, private agencies, and institutions concerned with Africa.

The Department of State has endorsed the formation of the new committee, and policy-making government representatives will be invited to its meetings.

Members of the committee include: Karl Bigelow, Teachers College, Columbia University; William O. Brown, director, African Research and Studies Program, Boston University; James S. Coleman, director, African Studies Center, University of California at Los Angeles; Cornelis W. de Kiewiet, president, University of Rochester; Melville J. Herskovits, director, African Studies Program, Northwestern University; Benjamin Mays, president, Morehouse College; Frederick Patterson, president, Phelps-Stokes Fund; and Emory Ross, president, African-American Institute.

RECENT *Publications*

The following are 1960 editions, except where indicated otherwise

ARMOUR, RICHARD, *The Classics Reclassified*, pp. 147, $2.95; BERELSON, BERNARD, *Graduate Education in the United States*, pp. 346, $6.95; BERLYNE, D. E., *Conflict, Arousal, and Curiosity*, pp. 350, $7.50; STEWART, MARIE M., *et al.*, *Business English and Communication*, 2nd edition, pp. 564, 1961, $2.48; WELLINGTON, C. BURLEIGH, and JEAN WELLINGTON, *Teaching for Critical Thinking*, pp. 364, $6.50. McGraw-Hill Book Co., New York 36.

BEALS, CARLETON, *Brass-Knuckle Crusade: The Great Know-Nothing Conspiracy, 1820-1860*. Pp. 312. Hastings House, New York 22. $5.95.

BOON, F. C., *Companion to School Mathematics*, pp. 302, $6.00; PRONOVOST, WILBERT, *The Teaching of Speaking and Listening in the Elementary School*, pp. 338, 1959, $4.50. Longmans, Green & Co., New York 18.

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